

## PATENT ABSTRACTS OF JAPAN

(11)Publication number : 06-285496

(43)Date of publication of application : 11.10.1994

(51)Int.Cl.

C02F 9/00  
C02F 1/44  
C02F 3/08  
C02F 3/10  
C02F 3/20

(21)Application number : 05-103751

(71)Applicant : EBARA INFILCO CO LTD  
EBARA RES CO LTD

(22)Date of filing : 07.04.1993

(72)Inventor : KATAOKA KATSUYUKI

## (54) HOLLOW FIBER MEMBRANE SEPARATION BIOLOGICAL TREATMENT AND DEVICE FOR ORGANIC DRAINAGE

(57)Abstract:

PURPOSE: To prevent the adhesion and solidification and press densification of sludge to membrane, keep the surface clean at all times and eliminate the necessity of maintenance work by coexisting biological granular solids in an aeration tank, keeping the solids in the suspension flowing state by aeration and discharging treated water through a hollow fiber membrane.

CONSTITUTION: In the hollow fiber membrane separation biological treatment method, urethane foam square grains A, the gravity of which is almost equal to that of water, are fed into an aeration tank 1, and microbes such as BOD utilized bacteria are carried on microbe carriers composed of the grains A. Also water to be treated in the tank 1 is disturbed by diffused air exhausted from an air blower 7 through an air diffusion pipe 6, and the grains A are suspension flowed by the turbulence generated by the diffused air. A membrane module 2 fitted with hollow fiber membrane is immersed in the tank 1, and the water treated biologically in the tank 1 is sucked by a pump 4, passed through the membrane module 2, filtered by the hollow fiber membrane fitted thereon and flowed out of a treated water outflow pipe 3 in the

